

IN THE CLAIMS

1. (Previously Presented) A method of forming quantum dots, the method comprising:

forming an  $\text{In}_x\text{Ga}_{1-x}\text{As}$  strained layer on a buffer layer; and  
forming the  $\text{In}(\text{Ga})\text{As}$  quantum dots on the  $\text{In}_x\text{Ga}_{1-x}\text{As}$  strained layer.

2. (Original) The method of forming quantum dots of claim 1, wherein the buffer layer is made of InAlAs, InAlGaAs, InP, InGaAsP or is a heterojunction layer of at least two of these four materials.

3. (Original) The method of forming quantum dots of claim 1, wherein in the  $\text{In}_x\text{Ga}_{1-x}\text{As}$  strained layer, "x" is 0.05 ~ 0.45.

4. (Original) The method of forming quantum dots of claim 1, wherein the thickness of the  $\text{In}_x\text{Ga}_{1-x}\text{As}$  strained layer is in a range of 0.5 nm ~ 10 nm.

5. (Original) The method of forming quantum dots of claim 1, wherein  $\text{In}(\text{Ga})\text{As}$  quantum dots are formed by metal organic chemical vapor deposition (MOCVD), molecular beam epitaxial (MBE), or chemical beam epitaxial (CBE).

6. (Previously Presented) The method of forming quantum dots of claim 1, wherein the thickness of the  $\text{In}(\text{Ga})\text{As}$  quantum dots is 3 ~ 10 monolayers.

7. (Previously Presented) The method of forming quantum dots of claim 1, wherein the  $\text{In}_x\text{Ga}_{1-x}\text{As}$  strained layer and the  $\text{In}(\text{Ga})\text{As}$  quantum dots can be stacked 1 to 30 sets on top of one another.

8. (Previously Presented) A method of forming quantum dots, the method comprising:

forming a lattice-matched buffer layer on an InP substrate;

forming an  $In_xGa_{1-x}As$  strained layer on the lattice-matched buffer layer; and

forming the  $In(Ga)As$  quantum dots on the  $In_xGa_{1-x}As$  strained layer;

wherein the  $In_xGa_{1-x}As$  strained layer changes the surface structure of the lattice-matched buffer layer and alters a strain energy that is necessary to grow the  $In(Ga)As$  quantum dots.

9. (Previously Presented) The method of forming quantum dots of claim 8, wherein the buffer layer is made of InAlAs, InAlGaAs, InP, InGaAsP or is a heterojunction layer of at least two of these four materials.

10. (Previously Presented) The method of forming quantum dots of claim 8, wherein in the  $In_xGa_{1-x}As$  strained layer,  $x$  is 0.05~0.45.

11. (Previously Presented) The method of forming quantum dots of claim 8, wherein the thickness of the  $In_xGa_{1-x}As$  strained layer is in a range of 0.5 nm~10nm.